LANGUAGE ARTS TOPICS – GRADES 4-6

SPELLING

1. Extend alphabetizing skill.
2. Abbreviate days of the week/months/titles/streets/states.
3. Obtain information by using the dictionary for definitions and pronunciation.
4. Apply rules for suffixes and prefixes.
5. Use context clues to spell homophones.
6. Locate words in the dictionary through use of guide words.

GRAMMAR

1. Form complex sentences, using the most common subordinating conjunctions.
2. Use coordinating conjunctions to connect equal elements.
3. Use pronouns effectively, including to point out use of generic male pronoun & its effect on language.
4. Use appropriate word order.
5. Use regular & irregular verb forms correctly.
6. Use proper subject-verb agreement.
7. Determine function of words & phrases by their position in a sentence.
8. Use verb forms to express time.
9. Form plurals of nouns.
10. Distinguish contemporary & historical influences on language.
11. Apply knowledge of roots & affixes to understand work meaning & functions.

LITERATURE

1. Identify & use figurative language which an author uses to enhance the quality of literature.
2. Describe & demonstrate that literature has a variety of forms & purposes.
3. Discuss language which creates & stimulates positive & negative mood.
4. Recognize & use various forms of poetic style.
5. Develop criteria for critical evaluation of literature.
6. Distinguish between fact & fantasy, fiction & non-fiction, biography & autobiography.
7. Identify language which an author uses which promotes stereotypes & bias.

MEDIA

1. Explain the organization of library-media center.
2. Locate (in the library media center) a variety of print & non-print material on an assigned topic.
3. Operate & use a variety of audiovisual equipment.
4. Develop simple criteria for evaluating print & non-print media.
5. Use appropriate sections of newspapers/magazines to locate information.
6. Use a multi media approach to express himself/herself logically & creatively.

READING

1. Develop vocabulary appropriate for instructional content & activities & use context clues to approximate meanings of new words.
2. Relate past experiences to reading material.
3. Distinguish that print is written language.
4. Demonstrate ability to self correct based on readjustment of predictions.
5. Use a variety of reference sources to locate information, solve problems, & answer questions.
6. Distinguish that personal values & points of view influence what is said, heard, or read.
7. Use leisure time for self-selected sustained reading.
8. Identify stated and implied main ideas & supportive details in related paragraphs.
9. Distinguish between fact and opinion.

REASONING

1. State a summary of conclusion based on data using charts, graphs, tables, maps, or list of facts.
2. Predict outcome based on relevant information.
3. Use available information to apply understandings to solve new problems in new situations.

SPEAKING/LISTENING

1. Speak before a group to express or defend an opinion or a point of view, present information, tell a story, present an oral interpretation of literature, read orally, & take part in a choral reading.
2. Use clear, concise language which is organized & incorporates words from vocabulary study, spelling, reading, & listening.
3. Effectively participate in a discussion by alternating the role of speaker & listener.
4. Recognize when another does not understand the message.
5. Listen & respond attentively to gain information.
6. Listen & respond analytically with comprehension.
7. Listen & respond appreciatively for enjoyment.
8. Listen & respond critically to make judgments, solve problems, & make predictions.
9. Listen & respond courteously.
10. Adjust listening & responding strategies according to purpose.

WRITING

1. Write a paragraph in which all of the sentences are related to one topic.
2. Proofread written works for spelling & mechanical errors.
3. Write clear, understandable directions & explanations.
4. Vary written communications according to purpose & audience using vivid & specific written language, including friendly letter.
5. Select & narrow a topic to be used in a written assignment.
6. Organize information in outline form.
7. Write for purpose of argumentation, narrative exposition, & persuasion.
8. Use connecting words & phrases to establish relationship between or among paragraphs.

9. Follow suggestions made during peer and teacher conferences to revise & edit written work.
10. Increase spelling skills & writing vocabulary through the use of word attack skills, dictionary sills & memory.
11. Use a word processor in writing & editing.

MATH TOPICS – GRADES 4-6

NUMBERS AND NUMERATION

1. Write counting numbers in expanded notation.
2. Distinguish between even and odd cardinal numbers.
3. Write the number names in English.
4. Distinguish between prime and composite numbers.
5. Read & write Hindu-Arabic numbers from thousandths to billions.
6. Demonstrate the existence of integers through common examples.
7. Order simple fractions using manipulative materials.
8. Demonstrate equivalent fractions using manipulative materials.
9. Compare and contrast the Hindu-Arabic number system with other number systems.

OPERATIONS

1. State a word problem for a number sentence.
2. Recite the addition facts for whole numbers zero to ten.
3. Recite the multiplication facts for whole numbers zero to ten.
4. Add, subtract, multiply, and divide whole numbers.
5. Explain the inverse relationship between addition and subtraction, and between multiplication and division.
6. Add and subtract fractions using manipulative materials.
7. Estimate sums, differences, products, & quotients of whole numbers.
8. Use a calculator and/or a computer when appropriate.
9. Evaluate expressions using the correct order of operations.

MEASUREMENT

1. Make linear comparisons with inches, feet, yards, centimeters and meters.
2. Tell time with a clock.
3. Measure lengths with metric and English rulers.
4. Read Celsius and Fahrenheit thermometers.
5. Recognize that error is inherent in measurement.
6. Find areas of simple two-dimensional shapes and volumes of simple three dimensional shapes using models or diagrams.
7. Measure angles using a protractor.
8. Compare the origins of the metric and English systems of measurement.
9. Write amounts of money to $999.99 using symbols.
10. Make change for simulated purchases.

GEOMETRY

1. Describe the similarities and differences of trapezoids, parallelograms, rectangles, and squares.
2. Identify parallel and perpendicular lines using intuitive concepts.
3. Determine the congruence of two polygons by superposition and measurement.

4. Solve problems involving area and perimeter of squares, rectangles and triangles requiring whole number operations.
5. Classify angles by their measure.
6. Classify triangles and quadrilaterals according to their special properties.
7. Find & approximation of the value of pi using manipulative materials.
8. Identify the distinguishing properties of segments, rays, lines, angles, polygons, circles, and spheres.

COLLECTION AND USE OF DATA

1. Gather, organize, and interpret data.
2. Read, interpret, and construct bar and line graphs.
3. Construct a frequency table from simple data.
4. Propose and find answers to questions, which require the gathering, organization, and interpretation of data.
5. Use calculators and computers to process data when appropriate.
6. Use mean, median, and mode as numbers that help describe a collection of data.
7. Predict the probability that an event will occur.

PROBLEM SOLVING

1. Use the four step heuristic approach to solve problems:
   a. Identify the problem, including what is known, what can be found, and what is needed.
   b. Plan a strategy.
   c. Solve.
   d. Check for reasonableness of results, units, degree of accuracy.
2. Apply various strategies in the problem solving process.
3. Estimate answers.
4. Use calculators and computers when appropriate in problem solving process.
5. Apply problem-solving skills to life studies.

SCIENCE TOPICS – GRADES 4-6

PROCESSES

1. OBSERVING – using the senses (seeing, tasting, touching, hearing and smelling) to find out about objects or events in the environment.
2. DESCRIBING AND COMPARING – recognizing and relating ways in which objects or events are alike or different.
3. CLASSIFYING – grouping objects or events according to their observed characteristics.
4. INFERRING – suggesting explanations, reasons or causes for events which have occurred which may not be directly observable.
5. PREDICTING – describing in advance the outcome of an event or process based on observations or data.
6. MEASURING – finding out about an unknown quantity by comparing its mass, area, length or volume with a known quantity.
7. COMMUNCATING – conveying information through the use of oral or written descriptions, pictures, graphs, charts, maps, demonstrations, etc.
8. INTERPRETING DATA – explaining the meaning or the significance of information regarding an object or event.
9. FORMULATING QUESTIONS – thinking, asking and writing questions based on the nature and process of scientific events.
10. EXPERIMENTING – designing and carrying out procedures under controlled conditions in which variables are limited to obtain reliable information about interrelationships between objects and events.
11. HYPOTHESIZING – stating a probable explanation for some occurrence which is subject to testing.

LIFE SCIENCE

1. Identify & describe the basic differences between plant & animal cells.
2. Describe cell division.
3. Describe the functions of genes.
4. Explain how materials get into and/or out of cells.
5. Recognize several one-called animals and plants.
6. Demonstrate the function of chlorophyll in food production.
7. Differentiate between asexual and sexual reproduction.
8. Differentiate between reproduction by spores, cones and seeds.
9. Identify flower parts by their function.
10. Describe the roles of various agents of pollination.
11. Observe and report the chronological development of several plant and animal organisms.
12. Design experiments which demonstrate the function of plant parts.
13. Identify causes which explain the extinction of certain plants and animals.
14. Hypothesize reasons for changes in plants and animals over time.
15. Predict how plants or animals may look in the future.
16. Recognize evidence of past life.
17. Contrast and compare vertebrates and invertebrates including their life systems.
18. Trace the progressive development of life systems from protozoan to vertebrates.
19. Identify and describe the major parts and functions of human body systems.
20. Contrast the processes of photosynthesis and respiration.

PHYSICAL SCIENCE

1. Observe & describe an energy change from one form to another.
2. Describe inter-relationships in a energy cycle.
3. Measure energy change data and make inferences from the data.
4. Manipulate materials to observe energy phenomenon.
5. Recognize and classify different states of matter.
6. Construct simple molecular models.
7. Generalize the difference between physical & chemical change & give examples.
8. Demonstrate the ability to use standard units of measure and measurement devices.
9. Collect and graphically record data from physical events in several different ways.
10. Analyze measured data to formulate predictions and generalizations.
11. Identify and demonstrate characteristics of simple machines.
12. Distinguish between chemical compounds, mixtures and/or solutions.
13. Construct simple electrical circuits.
14. Demonstrate the relationship between magnetism and electricity.
15. Contrast the characteristics of several examples of kinetic and potential energy.

EARTH & SPACE SCIENCE

1. Cite evidence that gasses, solids and liquids compose the atmosphere.
2. Describe the layers of the atmosphere.
3. Construct rudimentary weather instruments.
4. Measure factors that influence weather.
5. Translate weather data into forecasts.
6. Compare and contrast weather and climate.
7. Demonstrate the movements of the solar system.
8. Identify and describe the layering of the earth.
9. Recognize simple geologic structures.
10. Differentiate between rocks and minerals.
11. Identify and classify rocks and minerals.
12. Identify changes that produced fossils.
13. Identify methods for dating fossils.
14. Construct models demonstrating principles of flight.
15. Contrast mass and gravity.
16. Evaluate the impact of space program technology on our future.
17. Compare operation principles of jets, rocks, and satellites.
18. Describe the space environment.

ENVIRONMENTAL SCIENCE

1. Construct and identify model food webs
2. Describe the interaction of several ecosystems.
3. Report and hypothesize several of mankind’s positive and negative effects on the environment.
4. Design corrective methods to counteract abuse of the environment.
5. Demonstrate the “greenhouse” effect.
6. Identify the causes and effects of air, land and water pollution.
7. Relate the use of energy sources to future societal issues & careers.
8. Discuss the importance of energy conservation in homes, schools, and businesses.

SOCIAL STUDIES TOPICS – GRADES 4-6

CONTENT

Regions & interdependence
Physical features of Vermont, the United States, a world region, or another country
People's influences on environment
Environmental influences on people
Group interactions: family, community, state, nation, & world
Human activity, change & development
Continuity in change & development
Influence of events on people
Influence of people on events
Similarity & differences among people: values, beliefs, rules, customs, behaviors
People's responsibilities to people, environment, & the future
Human conflict & conflict resolution
People supply basic needs in a variety of ways
Natural resources effects on people's needs
Interdependency of economic systems among regions
People's need for order
Variety of structures which provide order
Universal characteristics of humanity

GEOGRAPHY

1. Construct maps, graphs, & charts to demonstrate physical & cultural patterns using appropriate keys.
2. Interpret maps, graphs, & charts.
3. Identify & locate geographical features of Vermont, United States, & other world regions. Describe differences & similarities.
4. Examine environmental influences on people's settlement patterns, lifestyle, and economic options.
5. Analyze patterns of population distribution in Vermont, United States, and another world region.
6. Distinguish between cultural & physical regions using local, national, and world examples.
7. Describe climatic regions; compare & contrast two regions.
8. Explain how climate affects people's needs for food, clothing, shelter, transportation, and communication.
9. Describe use of natural resources in Vermont, United States, & another world region.

HISTORY

1. Identify patterns of change & development caused by human activity in Vermont, the United States and another world region or country.
2. Appraise settlement patterns & colonization in Vermont, the United States, and another world region or country.
3. Analyze conflict/conflict resolution between groups of countries for Vermont, the United

States and another world region or country.
4. Explain & appraise government formation in Vermont, the United States and another country.
5. Compare & contrast slavery & its abolition in Vermont, the U.S. and another country.
6. Recognize that individual rights have evolved as a result of human political activity and that this evolution has varied among nations.
7. Analyze expansion, modernization, & industrialization, including the contributions of women & minorities in Vermont, the United States, & another world region or country.
8. Recognize the contributions culture & traditions of Native Americans in Vermont & the United States.
9. Analyze immigrant influence on change & development in Vermont, the United States, & another country.
10. Identify American influence on other countries.
11. Identify foreign influence on the United States.
12. Construct a timeline which illustrates change & development caused by human activity in Vermont, the U.S., another country or world region.
13. Examine contemporary issues & events & project possible consequences.

ECONOMICS

1. Examine alternative ways people meet basic needs for food, clothing, & shelter within America, another region of the world, or another country.
2. Compare & contrast alternative ways people meet basic needs among varying cultures.
3. Appraise people's needs & wants in terms of natural & manufactured resources, supply, demand, consumption, scarcity, conservation, and exploitation.
4. Illustrate Vermont's economic interactions with other states & America's interactions with other countries.
5. Identify America's, Vermont's & another country's natural resources and explain their importance and uses.
6. Hypothesize about the needs and wants of future Vermonters and how they might meet those needs.

LAW & GOVERNMENT

1. Analyze people's needs for rules & laws in family, state, national, and international relationships.
2. Explain the functions of the functions of the 3 branches of government
3. Recognize the individual's civic responsibilities.
4. Compare & contrast America's form of government with the government of another country.
5. Recognize individual rights (liberty, equality, justice).
6. Describe the content of the Declaration of Independence and Bill or Rights.
7. Identify components of Vermont local & state government.
8. Identify representative democracy, parliamentary democracy, communism, dictatorship, and monarchy.
9. Create a classroom law (bill), debate it, vote on it, establish procedures to enforce it, & appraise its effectiveness.

SOCIOLOGY

1. Describe roles individuals play in groups such as family, peers and co-workers.
2. Demonstrate group influences on individual behavior.
3. City need for & examples of social control.
4. Identify basic social institutions & their function in society.
5. Describe elements of socialization.

ANTHROPOLOGY

1. Compare & contrast beliefs, values, & customs of American with selected world culture.
2. Illustrate how customs, values & beliefs influence behavior.
3. Examine different material & non-material cultures.
4. Describe how people transmit their beliefs, values, & traditions.
5. Identify stages of human development.
6. Describe people's interdependency.
7. Describe people's relationship with environment; how people affect the environment; & how the environment affects people.
8. Design a futuristic culture.
9. Identify differences in food, clothing, shelter & traditions of different ethnic groups in Vermont, the United States, and in another country.
10. Describe the culture of Vermonters prior to European intervention.

PSYCHOLOGY

1. Recognize individual differences & similarities.
2. Identify human emotions.
3. Compare & contrast innate and learned behavior.
4. Recognize the rules, beliefs, customs & values influence behavior.
5. Categorize people's emotional needs.
6. Create a perfect day. Describe what you would do with your day, and how you would feel about it.
7. Define discrimination, prejudice, bias and stereotyping.